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10/587,992

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Charles H. Yanke

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EXAMINER

MASKELL, MICHAEL P

ART UNIT

PAPER NUMBER

2881

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,992

Applicant(s)

YANKE ET AL.

Examiner

MICHAEL MASKELL

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-42 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 07 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/ISD/IC)
Paper No(s)/Mail Date 11/13/2008; 07/15/2008; 03/16/2007; 07/28/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8, 10, 11, 13-15, 17, 19, 20, 22, 23 and 25 rejected under 35 U.S.C. 102(b) as being anticipated by Mussman (U.S. Patent 5,883,394).

Regarding claim 1, Mussman discloses a radiation shield comprising:

a plurality of panels formed of a radiation shielding material (S1(1)-S1(X)), the panels shaped to complement a contour of a vessel (Fig. 1 – a pipe is a "vessel" because it is designed to contain material); and

a plurality of seam plates (S2(1)-S2(X)), each seam plate positioned along a seam between adjacent panels and overlapping adjacent panels (Figs. 1 and 2).

Regarding claim 14, Mussman discloses a device containment apparatus comprising:

a vessel (Fig.1) for storing a radioactive device (a pipe is capable of storing a radioactive device because it comprises a space for material to be placed therein. Mussman does not teach actually storing a device in said pipe, but the structural limitations of the claim are met by Mussman, and an apparatus is defined by the structural elements, not their intended purpose (MPEP 2114)), the vessel including an outer wall defining an interior area;

a shield formed of radiation shielding material (shield elements SN(X)) the shield positioned adjacent the vessel for minimizing dispersal of radioactive material from the interior area of the vessel.

Regarding claims 2, 15 and 19, Mussman discloses wherein the panels are arranged to surround an exterior surface of the vessel including a plurality of panels coupled together and shaped to complement a contour of the vessel (Fig. 1).

Regarding claims 3 and 17, Mussman discloses wherein the panels are positioned adjacent an interior surface of the vessel (Fig. 1).

Regarding claims 8, 10 and 25, Mussman discloses a supplemental shield comprising a plurality of panels formed of a radiation shielding material and selectively coupled to the frame, the supplemental shield being positioned relative to the plurality of panels wherein the plurality of panels are positioned between the supplemental shield and the vessel (column 3, lines 12-25 - shield portions S1-SN are disclosed, encompassing the embodiment wherein N is greater than or equal to 3, resulting in a supplemental shield (S3) being positioned such that the plurality of panels (S1 and S2) are positioned between the supplemental shield and the vessel).

Regarding claim 11, Mussman discloses wherein each plate member has a first edge and a second edge and the seam plate is integrally formed with the first edge of the respective panel to overlap the adjacent panel (Figs. 1 and 2).

Regarding claims 13 and 22, Mussman discloses wherein the panel includes a lead shield encased in stainless steel (abstract).

Regarding claim 20, Mussman discloses a plurality of seam plates formed of

radiation shielding material, each seam plate coupled to adjacent panels to overlap a seam between adjacent panels (see in re claim 1).

Regarding claim 23, Mussman discloses wherein the shield is attached to the vessel (column 7, line 56-column 8, line 8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Mussman in view of Baduro (U.S. Patent 4,638,166).

Regarding claims 9 and 18, Mussman discloses the limitations of claims 1 and 14, but fails to teach wherein the shielding includes a lead wool blanket.

Baduro, however, teaches that lead wool blankets are a known alternative for filling radiation shielding elements (column 2, lines 28-31). The results of using a lead wool blanket as a shielding material, including as a filler within a laminate of another metal to form a shield element, were known to one of ordinary skill in the art by virtue of Baduro's teachings.

It would have been obvious to one of ordinary skill in the art to substitute the radiation shielding material that is within the stainless steel casing of Mussman's shielding plates with lead wool blankets because the substitution of one known element

for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

5. Claims 4 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Mussman in view of Backus (U.S. Patent 3,770,964).

Regarding claims 4 and 21, Mussman discloses the limitations of claims 3 and 19, but fails to teach an end cap formed of radiation shielding material, the end cap positioned at one end of the plurality of panels to cap an opening formed at the end of the plurality of panels.

Backus teaches a radioactive material container that is cylindrical in shape (i.e. pipe-shaped like the vessel in Mussman), comprising an end cap formed of radiation shielding material (50).

Applying a cap to the open end of a pipe in order to provide an enclosed space for storage is a matter of common sense to one of ordinary skill in the art when faced with the problem of containing a material. For this reason, it would have been obvious to one of ordinary skill in the art to add a cap such as that taught by Backus to the open end of Mussman's shielded pipe in order to contain a radioactive material.

Regarding claim 12, Mussman discloses the limitations of claim 1, but fails to teach a door shield formed of a radiation shielding material and coupled to an exterior surface of a door of the vessel; a door is, however, functionally equivalent to the cap discussed in re claim 4 above (it allows the vessel to be opened and closed, and is selectively able to be coupled to the vessel) and would have been obvious for the same reasons.

6. Claims 5-7, 16 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Mussman in view of Rogers, et al (U.S. Patent 3,820,435).

Regarding claims 5-7, 16 and 24, Mussman discloses the shield of claims 1 and 15, but fails to teach a frame or a base to mount the vessel.

Rogers teaches a system for confining explosives comprising a vessel (1) disposed within a frame (28) which is mounted to a base (25). Rogers further anticipates the containment of radioactive materials as a potential application of said vessel (column 1, lines 19-21). In such an application, one of ordinary skill would see the need for radiation shielding to contain the radiation emitted by such materials.

Mussman's shield is so constructed as to be capable of efficiently accommodating a varying dimensional requirement (column 1, lines 57-59), making it an obvious choice to one of ordinary skill in the art for shaping around a vessel such as Rogers' when radioactive materials are to be contained.

It would have been obvious to one of ordinary skill in the art to replace the pipe that is depicted as the vessel in Mussman's first embodiment with the vessel taught by Rogers, such that the apparatus comprises a frame wherein the vessel is at least partially disposed within the frame and the panels are coupled to the frame (coupling the panels to the frame would have been obvious since the panels would necessarily be shaped around the entire vessel to provide the intended shielding effect, leaving only panel surfaces to couple to the frame (i.e. no surface of the vessel would be left open to couple to the frame)), wherein the frame is mounted to the vessel, and wherein the

vessel is supported by a base and the frame is mounted to the base. Doing so would enable Rogers' vessel to contain radioactive material while protecting users nearby.

7. Claims 26-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Rogers in view of Mussman.

Regarding claim 26, Rogers discloses a device containment apparatus for storing an explosive device and minimizing dispersal of radioactive material, the device containment apparatus comprising:

- a vessel (115) including an outer wall defining an interior area;
- an opening (116) through the outer wall for accessing the interior area;
- a door (117) providing access to the interior area of the vessel.

Rogers also discloses that an intended use of the apparatus is to contain radioactive materials (column 1, lines 19-21), but does not teach a radiation shield formed of a radiation shielding material and positioned adjacent to a portion of the vessel.

Mussman, however, discloses a radiation shield formed of a radiation shielding material that is designed to accommodate various vessel geometries (column 1, lines 57-59), making it a logical choice for positioning adjacent to the vessel to provide protection from radiation when radioactive materials are placed within.

It would have been obvious to one of ordinary skill in the art to place Mussman's shield adjacent Rogers vessel because Rogers intends for radioactive materials to be placed in the vessel, and one of ordinary skill in the art would recognize the need for protection from the radiation emitted from such materials.

Regarding claim 27, it would have been obvious to one of ordinary skill in the art to position and arrange Mussman's shield to surround an exterior surface of the vessel in the combination given in re claim 26 above, because the radioactive materials must be completely surrounded by shielding to prevent leakage of radiation.

Regarding claim 28, one of ordinary skill in the art, when combining Rogers and Mussman as discussed in re claim 26, would be faced with two options for placement of the shielding, either adjacent an exterior surface of the vessel or adjacent an interior surface of the vessel. Because "a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense," (*KSR Intl. Co. v. Teleflex, Inc.* 550 U.S. ____ 82 USPQ2d 1385 (2007)) the choice of adjacent an interior surface of the vessel would have been an obvious option to try from a finite number of predictable solutions.

Regarding claims 29-31, Mussman's shield comprises a plurality of panels coupled together and shaped to complement a contour of the vessel (see in re claim 1 above), wherein each panel overlaps with an adjacent panel to prevent line of sight radiation (Figs. 1 and 2), and further comprising a seam plate positioned along a seam between adjacent panels and overlapping adjacent panels (see in re claim 1 above). As already discussed, this shield would have been an obvious choice for application to Rogers' vessel in order to provide protection from radiation from radioactive materials.

Regarding claim 32, Rogers teaches an end cap (117) positioned at one end of the vessel (and hence at one end of the plurality of panels) to cap an opening in the

vessel (and hence cap an opening formed at the end of the plurality of panels). Rogers does not teach that the end cap is formed of radiation shielding material; however, choosing a radiation shielding material to form the cap out of (such as lead filled steel as in Mussman's shield) would have been obvious to one of ordinary skill in the art because said one of ordinary skill would be aiming to prevent leakage of radiation from the vessel.

Regarding claims 33-35, Rogers teaches wherein the vessel is disposed within a frame (28) which is mounted to the vessel (Fig. 2), and a base (25). In the obvious combination of Rogers with Mussman (see in re claim 26 above), the vessel would be completely covered by the radiation shield; therefore, the shield would be mounted to the frame and the base in the same way that the unshielded vessel surface is mounted in the unmodified Rogers apparatus.

Regarding claim 36, Mussman's shield (already shown to be an obvious choice in re claim 26 above) includes a lead core covered by a casing (abstract).

Regarding claim 37, Rogers teaches a door shield (119) coupled to an exterior surface of the door (117). Rogers does not teach that this door shield is made of a radiation shielding material; however, choosing a radiation shielding material to form the door shield from (such as lead filled steel as in Mussman's shield) would have been obvious to one of ordinary skill in the art because said one of ordinary skill would be aiming to prevent leakage of radiation from the vessel.

Regarding claim 38, Mussman's shield (which is obvious to combine with Rogers as shown in re claim 26 above) further comprises a supplemental radiation

shield selectively positioned relative to the radiation shield, wherein the radiation shield is positioned between the supplemental radiation shield and the vessel (see in re claim 8 above).

Claims 39-42 are drawn to the method of providing and using the apparatus of claims 26-38, and the same rejections apply *mutatis mutandis* to these claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL MASKELL whose telephone number is (571)270-3210. The examiner can normally be reached on Monday-Friday 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571/272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Maskell/
Examiner, Art Unit 2881
29 January 2009

/ROBERT KIM/
Supervisory Patent Examiner, Art Unit 2881